

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 03PCFP902	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP2003/011284	International filing date (day/month/year) 04 September 2003 (04.09.2003)	Priority date (day/month/year) 09 September 2002 (09.09.2002)
International Patent Classification (IPC) or national classification and IPC C07C 43/225, G03F 7/038, 7/004		
Applicant NEC CORPORATION		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.  
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 04 September 2003 (04.09.2003)	Date of completion of this report 07 April 2004 (07.04.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Intern application No.

PCT/JP2003/011284

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	2-10	YES
	Claims	1	NO
Inventive step (IS)	Claims	2-10	YES
	Claims	1	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

**2. Citations and explanations**

Documents cited in the international search report

Document 1: T. NAGASAKI, et al., "Novel Conformational Isomerism of Water-Soluble Calix[4]arenes", Tetrahedron, 1992, Vol. 48, No. 5, pages 797-804

Document 2: US 5702620 A (NEC Corporation), 30 December 1997

**Claim 1**

Document 1 discloses 5,11,17,23-tetrakis(chloromethyl)-25,26,27,28-tetramethoxy-calix[4]arene (compound 4) and since various mixtures containing compound 4 are present in the process of manufacture, the document essentially discloses compositions containing compound 4.

Moreover, in the process of producing compound 4 from compound 3, it is obvious that 5,11,17-trichloromethyl-25,26,27,28-tetrakis-calix[arene] with different numbers of chloromethyl groups is produced as a by-product.

Consequently, the invention set forth in claim 1 lacks novelty and does not involve an inventive step in the light of document 1.

## Claims 2-10

The resist containing compounds represented by structural formulae (I) and (II), which is set forth in claims 2-10, is not disclosed in any document cited in the international search report or in any document considered to be relevant to this invention. Moreover, said invention would not be obvious to a person skilled in the art.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP2003/011284

## VI. Certain documents cited

### 1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
JP 2003-192649 A	09 July 2003 (09.07.2003)	27 December 2001 (27.12.2001)	

### 2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)

FYI

**Translation of "Written Opinion" issued by International  
Preliminary Examining Authority (Japan Patent Office)**

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1. Opinion

No Novelty, No Inventive Step :Claim 1

2. Document and Explanation

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•The documents cited by the International  
Search Report

Document 1. NAGASAKI T. et al., 'Novel  
Conformational Isomerism of Water-  
Soluble Calix[4]arenes',  
Tetrahedron, 1992, Vol.48, No.5,  
p.797-804

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2. US 5702620 A (NEC Corporation)  
1997.12.30

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•CLAIM 1

5, 11, 17, 23- tetrakis (chloro-methyl)-  
25, 26, 27, 28- tetramethoxycalix[4]arene  
(compound 4) is described in the document 1, and  
various mixtures including compound 4 exist in  
the producing process, so that the composition  
including the compound 4 is described.

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Also, when the compound 4 is produced from the compound 3, it is clear that 5, 11, 17 - trichloromethyl - 25, 26, 27, 28 - tetramethoxycalix [4] arene which has the  
5 different number of the chloromethyl groups is generated as a by-product material.

In consequence, the invention described in the scope of claim 1 has no novelty and no inventive step by the document 1.

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·CLAIM 2 - 10

The resist described in the scope of claims 2 - 10 which includes the compound represented by the structural formula (I) or  
15 (II) is not described in the documents cited in the International Search Report or in any documents which are recognized to have a relationship with the present invention, and is not obvious to a person skilled in the art.

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